

Strait of Georgia and Howe Sound Glass Sponge Reef Conservation Initiative

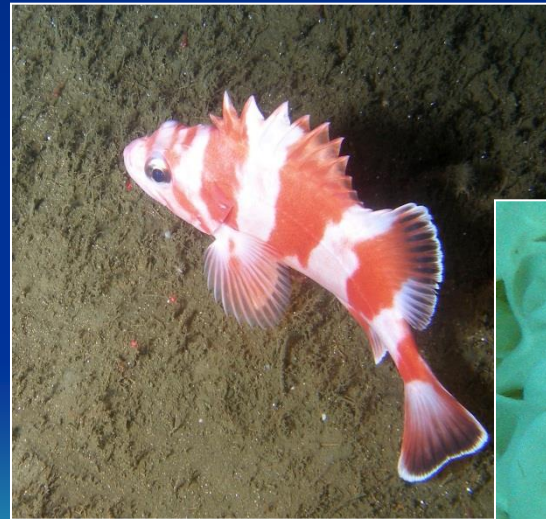
Presentation for the Howe Sound Community Forum

October 13, 2017

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Resource Management

Pacific Region



Fisheries and Oceans
Canada

Pêches et Océans
Canada

Presentation Overview

- Provide a brief overview on the international drivers behind glass sponge reef protection.
- Outline the global and ecological significance of glass sponge reefs in the marine environment.
- Describe the process taken for the first phase of the *Strait of Georgia and Howe Sound Glass Sponge Reef Conservation Initiative*
- Provide an update on Phase 2 (i.e. the newly identified glass sponge reefs in Howe Sound).



International Drivers

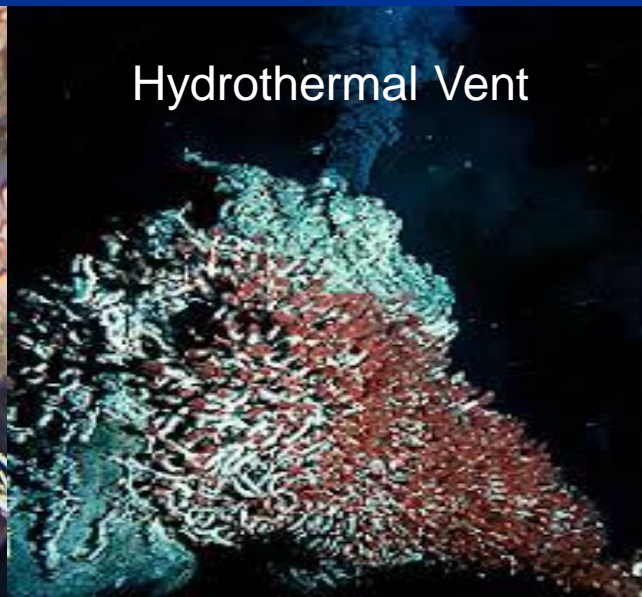
- The seafloor or “benthic” ecosystems are essential components to Canada’s ocean environments. They are significant areas of marine biodiversity providing habitat to diverse species of fish, invertebrates and plants that support complex food chains.
- In recognition of the importance that benthic ecosystems play in our oceans, and their vulnerability to fishing impacts, there has been increasing international calls to protect the benthic environment:
 - 2006 United Nations Resolution on Sustainable Fisheries
 - 2010 United Nations Convention on Biological Diversity – AICHI 11 Target – *which calls on member states to protect 10% of their marine areas by 2020*



International Context

2006 United Nations General Assembly (UNGA) Res. 61/105 (2006) : Sustainable Fisheries Resolution

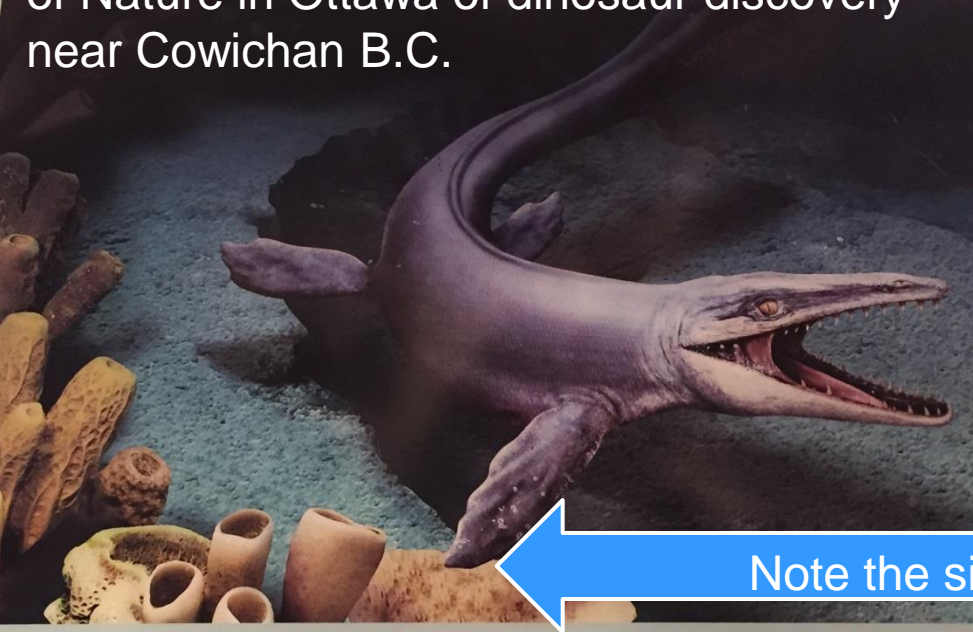
Calls upon its member states to take action immediately, individually and through regional fisheries management organizations, consistent with the precautionary approach, to sustainably manage fish stocks and protect vulnerable marine ecosystems including **seamounts, hydrothermal vents and cold water corals and sponge** from destructive fishing practices.



Global Significance

- Glass sponge reefs were thought to have gone extinct 40 million years ago until 1987-88 when Natural Resources Canada (NRCan) discovered them in Hecate Strait and Queen Charlotte Sound while using acoustic technology to map the ocean floor. In 2004-05, NRCan discovered nine additional reefs in the Strait of Georgia and Howe Sound.
- Although individual glass sponges are found across the world, glass sponge reefs have only been found here in the Northeast Pacific.
- Scientists have likened the discovery of glass sponge reefs in B.C. to discovering a herd of dinosaurs on land!

Artist rendition at the Canadian Museum of Nature in Ottawa of dinosaur discovery near Cowichan B.C.



Glass sponge in Howe Sound



Note the similarity! 😊

Photo: CPAWS

Ecological Significance

Glass sponge serves many important roles in our benthic marine environment:

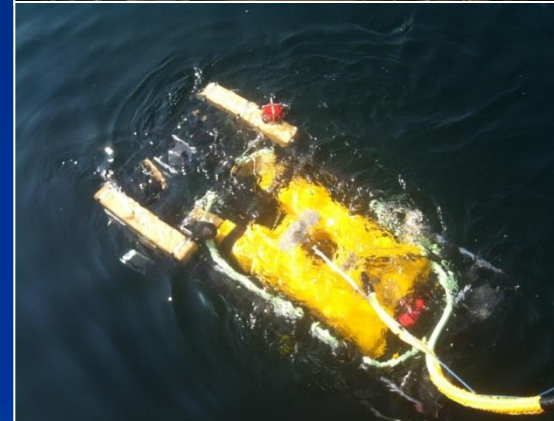
- Act as water filters – filtering over 800 times their body volume each hour.
- They play an important role in the productivity of our oceans through carbon and nitrogen processing - assimilating large quantity of organic carbon and silica.
- AND...they provide significant habitat for a number of fish and invertebrate species that are of economic and social importance to Canadians including rockfish and spot prawns - likely functioning as nursery habitat for juvenile rockfish.



Strait of Georgia and Howe Sound Glass Sponge Reef Conservation Initiative – Phase 1

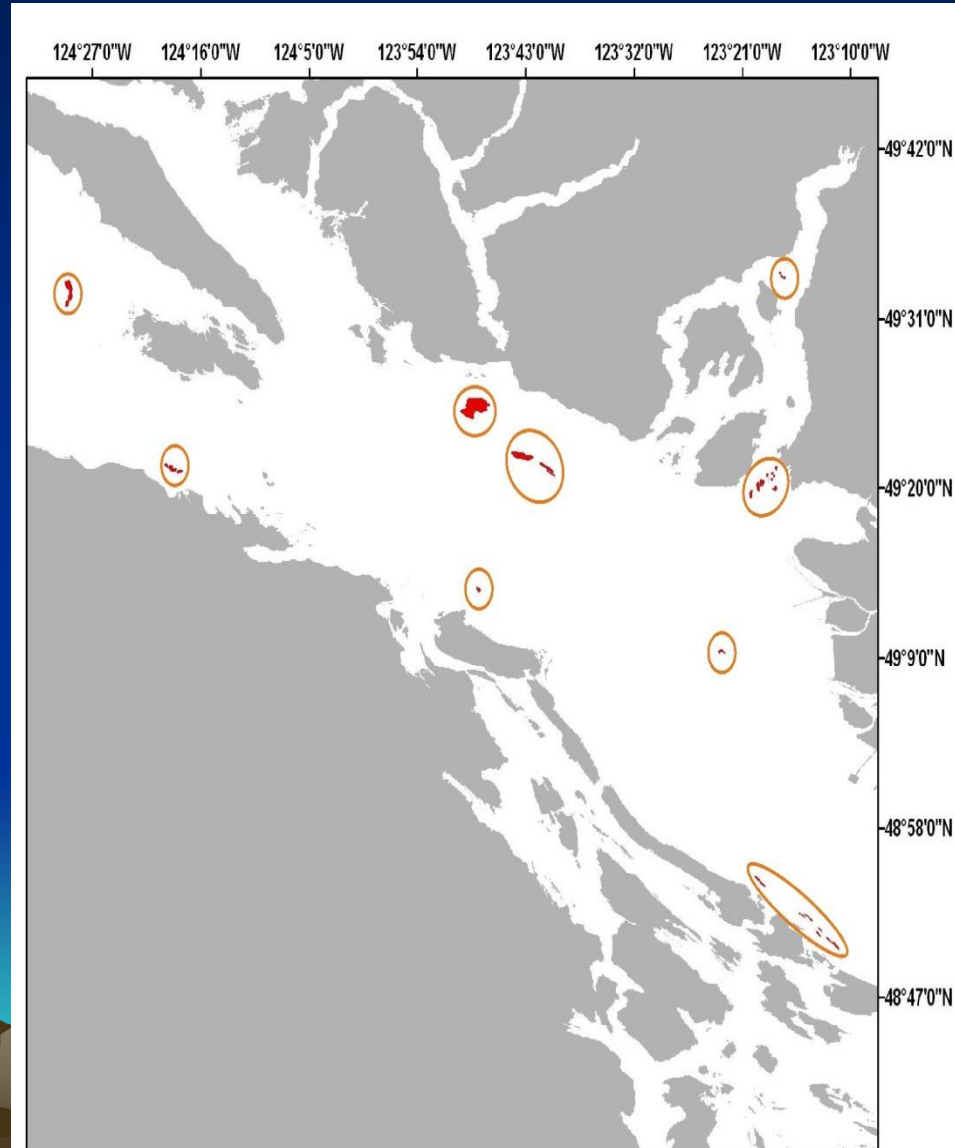
In 2012 DFO initiated a process to examine the biological significance of the nine glass sponge reefs identified by NRCan. This was an extensive process that required:

1. Scientific ground-truthing of NRCan's discovery.
2. Risk Assessment of the fishing activities active in the area.
3. Socioeconomic Analysis to determine the economic impacts of implementing fishing closures.
4. Consultation with First Nations and stakeholders.
5. Development of appropriate mitigation measures.



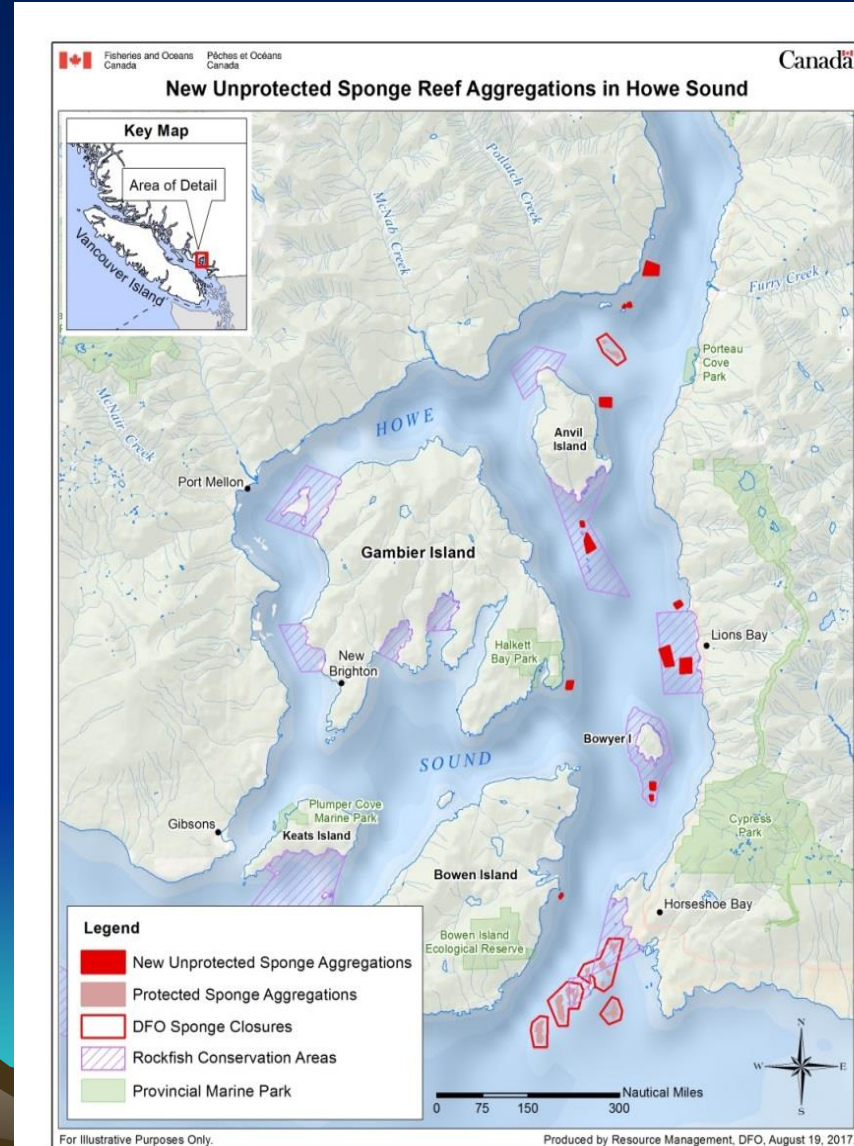
Strait of Georgia and Howe Sound Glass Sponge Reef Conservation Initiative – Phase 1

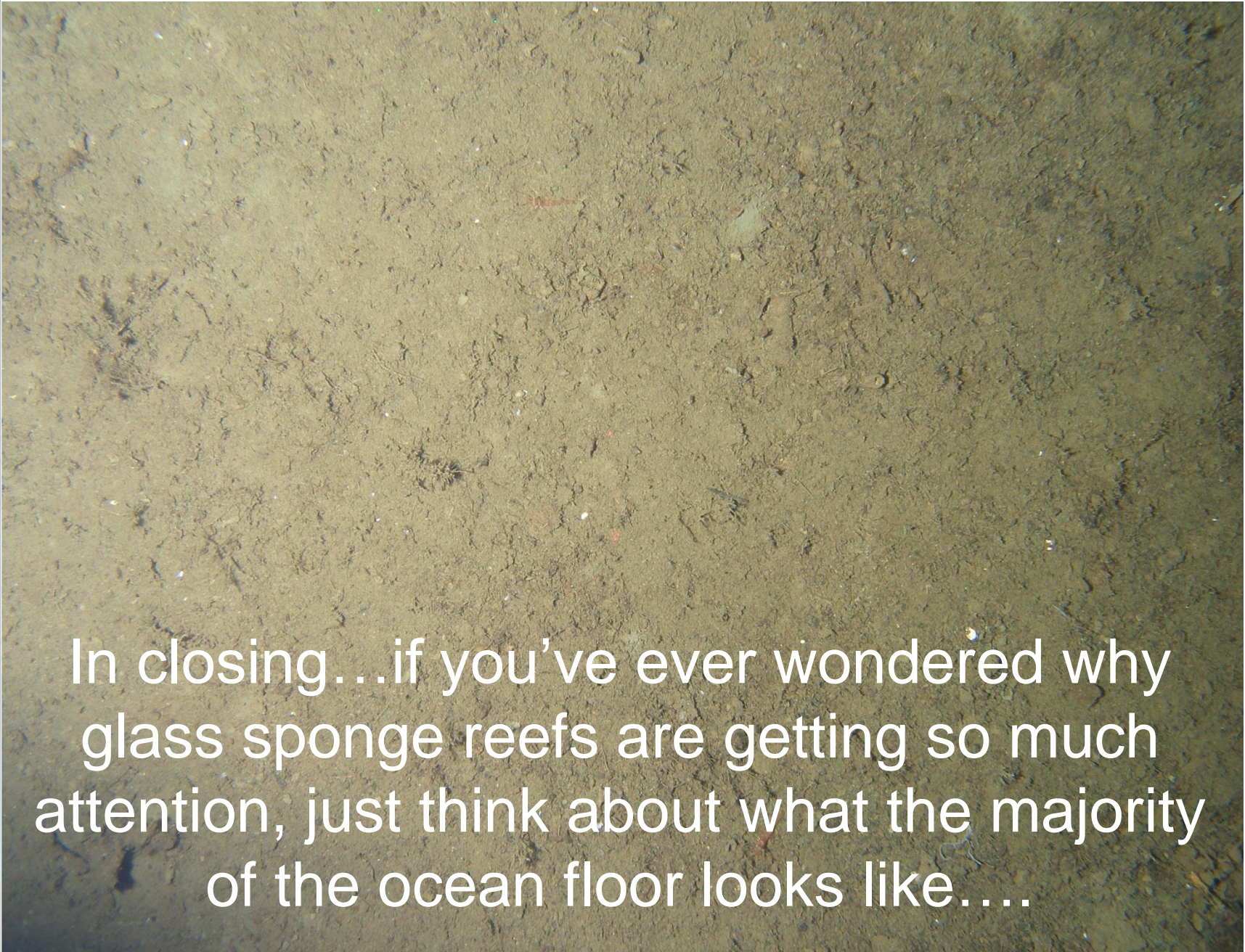
- In 2015-16 all nine original glass sponge reefs in the Strait of Georgia and Howe Sound were closed to all bottom contact fishing practices including commercial, recreational and aboriginal fisheries for Food, Social and Ceremonial fishing.
- Fisheries closed include prawn by trap, crab by trap, bottom trawl, bottom longline and trap, and shrimp by trawl.
- 150 metre buffer was also closed to protect the reefs from adjacent sediment plumes and gear drift.



Strait of Georgia and Howe Sound Glass Sponge Reef Conservation Initiative – Phase 2

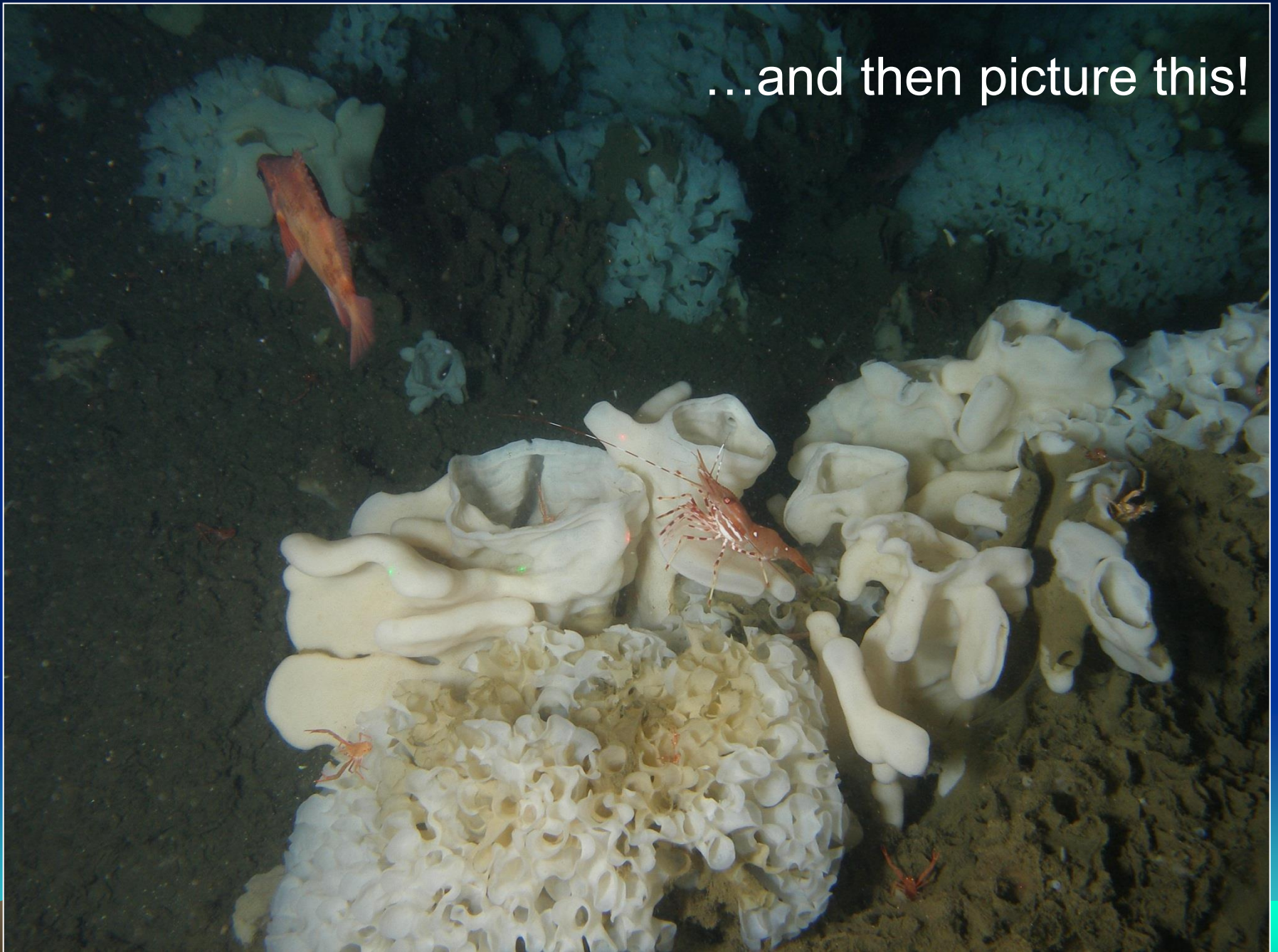
- During the 2014 consultation process to protect the original nine reefs, 13 new glass sponge complexes in Howe Sound were brought to DFO's attention by the Marine Life Sanctuaries Society.
- At the time, it was decided to proceed with the protection of the original nine reefs to allow more time to research the biological significance of the 13 new sites.
- A letter from DFO has recently been sent to First Nations and stakeholders requesting Voluntary Avoidance of the 13 new sites as a precautionary measure.
- Consultations for this process are anticipated for the winter of 2017-18.
- The same process / steps conducted during Phase 1 will be conducted for the 13 new sites.





In closing...if you've ever wondered why glass sponge reefs are getting so much attention, just think about what the majority of the ocean floor looks like....

...and then picture this!



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